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INFORMATION CONCERNING

Some of the Principal Navies of the World

A SERIES OF TABLES COMPILED TO
ANSWER POPULAR INQUIRY



Office of Naval Intelligence
April, 1913

WASHINGTON
GOVERNMENT PRINTING OFFICE
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P R E F A C E.

The Navy Department is so frequently in receipt of letters from all parts of the country requesting information for debating societies, journals, and periodicals, as well as individuals, concerning the relative strength of the principal naval powers, the types of vessels building or built, and facts concerning the type of battleship popularly known as *Dreadnought*, that it has directed the Office of Naval Intelligence to prepare tables which will substantially make reply to the greater part of such letters.

Under these instructions the Office of Naval Intelligence has compiled the following tables from the best available data; and while these tables may be regarded as substantially correct, it is possible that inaccuracies may occur, for the reason that few countries besides the United States publish all the data concerning their fighting strength, and even greater efforts are being made abroad to maintain secrecy.

Tables I, II, III, IV, and V were compiled April 1, 1913, and are here reproduced.

T. S. RODGERS,

Captain, U. S. Navy, Director of Naval Intelligence.

OFFICE OF NAVAL INTELLIGENCE,

Navy Department, April, 1913.

TABLE I.
RELATIVE ORDER OF WARSHIP TONNAGE.

Present order (tonnage completed).		As would be the case if vessels now building were completed.	
Nation.	Tonnage.	Nation.	Tonnage. ¹
Great Britain.....	2, 007, 247	Great Britain.....	2, 483, 545
Germany.....	865, 984	Germany.....	1, 133, 878
United States.....	763, 132	United States.....	929, 351
France.....	627, 787	France.....	807, 717
Japan.....	471, 962	Japan.....	616, 528
Russia.....	286, 930	Russia.....	595, 807
Italy.....	224, 837	Italy.....	413, 882
Austria.....	198, 159	Austria.....	260, 751

¹ Estimated.



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TABLE I.
WARSHIP TONNAGE OF THE PRINCIPAL NAVAL POWERS
NUMBER AND DISPLACEMENT OF WARSHIPS, BUILT AND BUILDING, OF 1,000 OR MORE TONS, AND OF TORPEDO CRAFT OF MORE THAN 20 TONS
[March 1, 1911]

TYPE () VESSEL	GREAT BRITAIN				GERMANY				UNITED STATES				FRANCE				JAPAN				RUSSIA				ITALY				ALGERIA			
	Building		Hull		Building		Hull		Building		Hull		Building		Hull		Building		Hull		Building		Hull		Building		Hull		Building			
	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons	Number	Tons		
Battleships* Dreadnought type	8	151,350	10	226,500	4	74,408	9	193,500	4	71,000	5	137,650			2	66,184			2	41,000			4	92,000			4	84,000	...	...	17	40,000
Battleships first class*	17	666,450			22	362,616			25	316,146			17	571,716	5	90,150	13	101,028			9	121,200			9	109,000			5	60,342	1	14,273
Battleships second class*					6	24,208			5	10,081			3	17,180			3	18,786			2	10,380							6	41,700	...	...
Armored cruisers* Invincible type	4	70,500	5	110,050	1	19,091	2	66,000									2	29,200	1	27,500												
Armored cruisers	34	406,800			9	91,215			12	151,415			21	195,701	1	13,779	11	104,800			7	70,200			10	78,520			3	18,800	...	...
Cruisers* 6,000 tons*	16	161,300							5	43,806			5	21,052			2	13,150			7	40,400										
Cruisers 6,000 to 8,000 tons*	42	193,910	12	50,500	25	102,380	4	21,650	11	49,541			7	29,119			9	51,550	3	16,000	2	6,500										
Cruisers 8,000 to 10,000 tons*	22	49,510			16	36,677			11	13,435			2	4,106			5	9,158			2	2,680					3	9,760	3	11,483	...	...
Torpedo boat destroyers	176	29,000	23	25,400	65	17,262	16	11,209	30	16,854	12	8,104	65	21,748	20	11,138	51	20,667	1	3,100	97	30,254	3	2,550	23	7,037	10	6,130	14	5,762	...	...
Torpedo boats		17,110			77	4,719			28	4,867			221	21,274	7	300	50	5,510			45	5,627			58	8,500	30	3,760	47	7,153	...	...
Submarines	68	19,682	16	9,090	8	2,280	12	5,400	18	1,158	12	5,200	100	15,200	21	0,144	9	1,412	9	1,680	31	6,512	2	1,700	7	1,222	13	4,300	6	1,645	6	1,600
Total tons built and to be built		1,841,762		426,880		667,256		297,750		517,507		136,131		557,656		151,105		434,091		80,480		305,713		85,750		210,369		108,330		153,938		33,800
Total tons built and building		2,278,642				965,045				842,500				788,111				572,671				401,463				328,289				209,899		

[illegible]

* All craters are less than 10 m in diameter. In addition, craters exceeding 100 m in diameter are considered as craters. Results are considered as craters in which history and geology of the crater wall is not necessarily agreed. The word "cratered" has been omitted to mean all craters except the smallest and which now have pre-terrace decks.

TABLE III.

PERSONNEL.

[Apr. 1, 1913.]

Rank.	England.	France.	Germany.	Japan.	United States.
Admirals of the fleet.....	3	.....	2	1	¹ 1
Admirals.....	12	.....	5	7	.....
Vice admirals.....	22	15	12	17	.....
Rear admirals.....	55	30	21	45	² 24
Captains and commanders...	644	360	351	292	212
Other line officers.....	2, 473	1, 467	1, 811	1, 818	1, 471
Midshipmen at sea.....	558	60	398	154	0
Engineer officers.....	872	505	529	683	.....
Medical officers.....	593	³ 390	322	⁴ 368	317
Pay officers.....	685	211	259	341	221
Chaplains.....	139	.....	28	.....	23
Warrant officers.....	2, 675	⁵ 2, 445	2, 615	1, 520	697
Enlisted men.....	115, 079	55, 760	60, 920	42, 043	47, 469
Marine officers.....	457	.....	170	.....	316
Enlisted men (marines).....	⁶ 20, 943	.....	⁷ 5, 826	.....	9, 866
Total.....	145, 210	61, 243	73, 269	47, 289	60, 617

¹ The Admiral of the Navy.² The United States now has, temporarily, as extra numbers, due to promotion for war service, and to officers restricted by law to engineering duty only on shore only 8 flag officers, 23 captains, 6 commanders, 10 lieutenant commanders, and 1 lieutenant.³ Includes pharmacists and apothecaries.⁴ Includes pharmaceutical officers.⁵ Includes adjutants, premier maitres, and maitres of all branches.⁶ Includes 3,130 men of the Coast Guard.⁷ Marine infantry and seaman artillery.

TABLE IV.
VESSELS BUILT.

[Apr. 1, 1913.]

	Battle- ships, Dread- nought type. ¹	Battle- ships. ²	Battle cruis- ers. ³	Ar- mored cruis- ers.	Cruis- ers. ⁴	De- stroy- ers.	Tor- pedo boats.	Suhma- rines.	Coast defense vessels. ⁶
England.....	16	40	8	34	⁶ 74	⁶ 144	49	70	0
Germany.....	11	20	3	9	39	118	9	26	3
United States.....	8	24	0	11	15	42	19	23	4
France.....	0	20	0	20	10	78	157	75	2
Japan.....	2	13	0	13	14	58	54	13	2
Russia.....	0	8	0	6	9	98	14	31	2
Italy.....	1	8	0	9	5	24	48	18	0
Austria.....	2	6	0	3	4	12	40	6	6

¹ Battleships having a main battery of all big guns (11 inches or more in caliber).

² Battleships of (about) 10,000 tons or more displacement, and having more than one caliher in the main battery.

³ Armored cruisers having guns of largest caliher in main battery and capable of taking their place in line of battle with the battleships. They have an increase of speed at the expense of carrying fewer guns in main battery, and a decrease in armor protection.

⁴ Includes all unarmored cruising vessels above 1,500 tons displacement.

⁵ Includes smaller battleships and monitors. No more vessels of this class are being proposed or built by the great powers.

⁶ Includes vessels of colonies.

TABLE V.

VESSELS BUILDING OR AUTHORIZED.

[Apr. 1, 1913.]

	Battle- ships, Dread- nought type.	Battle cruisers.	Cruisers.	Destroy- ers.	Torpedo boats.	Subma- rines.
England ¹	11	² 2	² 14	² 40	0	² 16
Germany ³	6	3	4	12	0	⁴ 6
United States....	5	0	0	14	0	23
France.....	7	0	0	8	0	20
Japan ⁵	1	4	0	2	0	2
Russia ⁶	7	4	2	9	0	8
Italy.....	7	0	2	11	21	2
Austria.....	2	0	3	6	12	7

¹ England has no continuing shipbuilding policy, but usually lays down each year 4 or 5 armored ships with a proportional number of smaller vessels.

² Includes vessels of colonies.

³ Germany has a continuing shipbuilding program, governed by a fleet law authorized by the Reichstag. For 1913 there are authorized 2 battleships, 1 battle cruiser, 2 cruisers, 12 destroyers. Eventual strength to consist of 41 battleships, 20 armored cruisers, 40 cruisers, 144 destroyers, 72 submarines.

⁴ \$4,760,000 authorized for experiments and further construction.

⁵ \$78,837,569 authorized to be expended from 1911 to 1917 for the construction of war vessels.

⁶ Russian shipbuilding program provides for the completion by 1918 of 4 battle cruisers, 8 small cruisers, 36 destroyers, and 18 submarines. Four battle cruisers and two cruisers have been contracted for and are included in the above table.

NOTE.—Vessels undergoing trials are considered as completed.

The following vessels are not included in the tables: Ships over 20 years old from date of launch unless they have been reconstructed and rearmed within 5 years; torpedo craft over 15 years old; transports, colliers, repair ships, converted merchant vessels, or any other auxiliaries; vessels of less than 1,500 tons, except torpedo craft; torpedo craft of less than 50 tons.

Table V includes vessels authorized but not yet laid down, as well as those actually under construction.

TABLE VI.

BATTLESHIPS AND ARMORED CRUISERS PRIOR TO THE DREADNOUGHT TYPE.

[Apr. 1, 1913.]

	Built. ¹		
	Num- ber.	Tons.	Guns, 8-inch and larger.
GREAT BRITAIN.			
Battleships.....	40	589,385	{ 152 12" 8 10"
Armored cruisers.....	34	406,800	{ 52 9.2" 68 9.2"
GERMANY.			
Battleships.....	20	242,800	{ 40 11" 40 9.5"
Armored cruisers.....	9	94,245	{ 6 9.5" 44 8.3"
UNITED STATES.			
Battleships.....	24	323,858	{ 28 13" 68 12" 136 8"
Armored cruisers.....	11	149,295	{ 16 10" 32 8"
FRANCE.			
Battleships.....	20	286,005	{ 70 12" 10 10.8" 72 9.4"
Armored cruisers.....	20	201,724	{ 68 27.6"
JAPAN.			
Battleships.....	13	191,380	{ 52 12" 32 10" 6 8"
Armored cruisers.....	13	138,483	{ 16 12" 50 8"
ITALY.			
Battleships.....	8	96,100	{ 16 12" 8 10" 56 8"
Armored cruisers.....	9	74,020	{ 19 10" 6 8"

¹ Ships over 20 years old from date of launch not included.² 7.6-inch, largest caliber carried.

TABLE VII.

DREADNOUGHT TYPE OF BATTLESHIPS, WITH CONTEMPORARIES OF OVER 18,000 TONS DISPLACEMENT, AND ARMORED CRUISERS OF INVINCIBLE TYPE (NOW CALLED BATTLE CRUISERS).

	Built.			Building.			Number author- ized up to Apr. 1, 1913, but not yet building or ordered.
	Num- ber.	Tons.	Guns.	Num- ber.	Tons. ¹	Guns. ¹	
GREAT BRITAIN.							
Battleships.....	16	334, 350	{ 60 13. 5" 100 12" }	11	291, 100	{ 60 13. 5" 40 15" }	2 5
Battlecruisers...	8	160, 800	{ 16 13. 5" 48 12" }	2	55, 000	16 13. 5"	.....
GERMANY.							
Battleships.....	11	236, 490	{ 78 12" 48 11" }	6	156, 220	{ 40 14" 20 12" }	2
Battle cruisers...	3	64, 364	28 11"	3	81, 000	{ 20 12" 10 11" }	1
UNITED STATES.							
Battleships.....	8	167, 650	80 12"	5	140, 000	50 14"	1
Battle cruisers...	.....	.....	.....	.....	.....	.....	.....
FRANCE.							
Battleships.....	.....	.....	.....	7	161, 884	{ 30 13. 4" 48 12" }	4
Battle cruisers...	.....	.....	.....	.....	.....	.....	.....
JAPAN.							
Battleships.....	2	41, 600	24 12"	1	30, 000	10 15"	.....
Battle cruisers...	.....	.....	.....	4	110, 000	32 14"	.....
RUSSIA.							
Battleships.....	.....	.....	.....	7	158, 540	84 12"	.....
Battle cruisers...	.....	.....	.....	4	128, 000	48 14"?	.....
ITALY.							
Battleships.....	1	18, 600	12 12"	7	167, 100	{ 20 14" 62 12" }	.....
Battle cruisers...	.....	.....	.....	.....	.....	.....	.....
AUSTRIA.							
Battleships.....	2	40, 020	24 12"	2	40, 020	24 12"	.....
Battle cruisers...	.....	.....	.....	.....	.....	.....	.....

¹ Estimated.² Estimates 1913-14.

TABLE VII—Continued.

DREADNOUGHT TYPE OF BATTLESHIPS, WITH CONTEMPORARIES OF OVER 18,000 TONS DISPLACEMENT, AND ARMORED CRUISERS OF INVINCIBLE TYPE (NOW CALLED BATTLE CRUISERS)—Continued.

	Built.			Building.			Number authorized up to Apr. 1, 1913, but not yet building or ordered.
	Number.	Tons.	Guns.	Number.	Tons. ¹	Guns. ¹	
BRAZIL.							
Battleships.....	2	38,500	24 12"	1	27,500	14 12"	.....
Battle cruisers..	.....	.....	.....	.....	.....	.....	.....
ARGENTINA.							
Battleships.....	.....	.....	.....	2	56,000	24 12"	1
Battle cruisers..	.....	.....	.....	.....	.....	.....	.....
CHILE.							
Battleships.....	.....	.....	.....	2	56,000	20 14"	.....
Battle cruisers..	.....	.....	.....	.....	.....	.....	.....

¹ Estimated.

TABLE VIII.

BATTLESHIPS, ARMORED CRUISERS, AND CRUISERS (SCOUTS) OF THE
SIX PRINCIPAL NAVAL POWERS, LAUNCHED 1906-1912.

Year.	Bat- tle ships.	Ton- nage.	Arm- ored cruis- ers. ¹	Ton- nage.	Cruis- ers.	Ton- nage.	Total.	Total tonnage.
GREAT BRITAIN.								
1906.....	3	50,900	2	29,200	.....	.....	5	80,100
1907.....	3	55,800	4	66,350	.....	.....	7	122,150
1908.....	2	38,500	.....	.....	1	3,300	3	41,800
1909.....	2	39,150	1	18,750	6	25,920	9	83,820
1910.....	3	63,000	1	26,350	4	18,660	8	108,010
1911.....	5	115,500	3	63,950	5	22,620	13	202,070
1912.....	4	100,800	1	27,000	5	24,900	10	152,700
Total.....	22	463,650	12	231,600	21	95,400	55	790,650
GERMANY.								
1906.....	2	25,964	2	22,832	2	6,790	6	55,586
1907.....	.....	.....	.....	.....	2	6,988	2	6,988
1908.....	4	74,408	1	15,550	2	7,824	7	97,782
1909.....	3	67,320	1	19,000	3	12,843	7	99,163
1910.....	1	22,440	1	22,637	.....	.....	2	45,077
1911.....	3	72,000	1	22,637	4	21,652	8	116,289
1912.....	2	48,220	1	25,000	2	9,652	5	82,872
Total.....	15	310,352	7	127,656	15	65,749	37	503,757
UNITED STATES.								
1906.....	1	16,000	2	29,000	.....	.....	3	45,000
1907.....	.....	.....	.....	.....	3	11,250	3	11,250
1908.....	3	52,000	.....	.....	.....	.....	3	52,000
1909.....	2	41,825	.....	.....	.....	.....	2	41,825
1910.....	1	21,825	.....	.....	.....	.....	1	21,825
1911.....	2	52,000	.....	.....	.....	.....	2	52,000
1912.....	2	54,000	.....	.....	.....	.....	2	54,000
Total.....	11	237,650	2	29,000	3	11,250	16	277,900

¹ Includes battle cruisers.

TABLE VIII—Continued.

**BATTLESHIPS, ARMORED CRUISERS, AND CRUISERS (SCOUTS) OF THE
SIX PRINCIPAL NAVAL POWERS, LAUNCHED 1906-1912—Continued.**

Year.	Battle-ships.	Ton-nage.	Arm-ored cruis-ers. ¹	Ton-nage.	Cruis-ers.	Ton-nage.	Total.	Total tonnage.
JAPAN.								
1906.....	1	19,350	1	13,750	.....	.....	2	33,100
1907.....	1	19,800	2	29,200	2	5,380	5	54,380
1908.....	.....	.....	.....	.....	1	1,350	1	1,350
1909.....	.....	.....	.....	.....	.....	.....	.....	.....
1910.....	1	20,800	.....	.....	.....	.....	1	20,800
1911.....	1	20,800	.....	.....	3	15,000	4	35,800
1912.....	.....	.....	2	55,000	.....	.....	2	55,000
Total.....	4	80,750	5	97,950	6	21,730	15	200,430
FRANCE.								
1906.....	.....	.....	1	13,428	.....	.....	1	13,428
1907.....	1	14,636	1	13,779	.....	.....	2	28,415
1908.....	.....	.....	1	13,779	.....	.....	1	13,779
1909.....	5	90,145	.....	.....	.....	.....	5	90,145
1910.....	1	18,029	.....	.....	.....	.....	1	18,029
1911.....	2	46,184	.....	.....	.....	.....	2	46,184
1912.....	2	46,184	.....	.....	.....	.....	2	46,184
Total.....	11	215,178	3	40,986	.....	.....	14	279,256
RUSSIA.								
1906.....	3	42,000	3	31,000	.....	.....	6	73,000
1907.....	1	16,600	1	8,000	.....	.....	2	24,600
1908.....	.....	.....	.....	.....	.....	.....	.....	.....
1909.....	.....	.....	.....	.....	.....	.....	.....	.....
1910.....	.....	.....	.....	.....	.....	.....	.....	.....
1911.....	4	92,000	.....	.....	.....	.....	4	92,000
1912.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	8	150,600	4	39,000	.....	.....	12	189,600

¹ Includes battle cruisers.

TABLE IX.

PRINCIPAL CHARACTERISTICS OF BATTLESHIPS RECENTLY COMPLETED OR APPROACHING COMPLETION.

	De- signed speed.	Displace- ment.	Length between perpen- diculars.	Beam.	Draft.	Comple- ment.	Battery.	Torpedo tubes	Maxi- mum thickness armor belt.	Date launched.	Date of comple- tion.
Bellerophon (Great Britain).	21	18,600	<i>Feet.</i> 490	<i>Feet.</i> 82	<i>Feet.</i> 27	800	{ 10 12" 16 4"	} 5	<i>Inches.</i> 11	July, 1907	Feb., 1909
Vanguard (Great Britain)....	21	19,250	500	84	27	800	{ 10 12" 20 4"	} 3	9 $\frac{3}{4}$	Feb., 1909	Mar., 1910
Neptune (Great Britain).....	21	19,900	510	85	27	.....	{ 10 12" 16 4"	} 3	12	Sept., 1909	Jan., 1911
Orion (Great Britain).....	21	22,500	545	88 $\frac{1}{2}$	27 $\frac{1}{2}$	.....	{ 10 13.5" 20 4"	} 3	12	Aug., 1910	Nov., 1911
King George V (Great Brit- ain).	21	24,000	555	89	27 $\frac{1}{2}$	.....	{ 10 13.5" 24 4"	} 3	12	Oct., 1911	Nov., 1912
Nassau (Germany).....	19	18,602	452	89	26 $\frac{1}{2}$	950	{ 12 11" 12 6"	} 6	9 $\frac{3}{4}$	Mar., 1908	Oct., 1909
Helgoland (Germany)	21	22,440	515	92	27	980	{ 12 12" 14 6"	} 6	9 $\frac{3}{4}$	Sept., 1909	Aug., 1911
Kaiser (Germany).....	21	24,110	535	95	27	1,000	{ 10 12" 14 6"	} 6	12	Mar., 1911	Aug., 1912
North Dakota (United States).	21	20,000	510	85	27	940	{ 10 12" 14 5"	} 2	11	Nov., 1908	Apr., 1910

TABLE IX—Continued.

PRINCIPAL CHARACTERISTICS OF BATTLESHIPS RECENTLY COMPLETED ON APPROACHING COMPLETION—Continued.

	De- signed speed.	Displace- ment.	Length between perpen- diculars.	Beam.	Draft.	Comple- ment.	Battery.	Torpedo tubes.	Maxi- mum thickness armor belt.	Date launched.	Date of comple- tion.
Utah (United States).....	20½	21, 825	<i>Feet.</i> 510	<i>Feet.</i> 88	<i>Feet.</i> 28½	950	{ 10 12" 16 5"	{ 2	<i>Inches.</i> 11	Dec., 1909	Aug., 1911
Arkansas (United States)....	20½	26, 000	554	93	28½	1, 040	{ 12 12" 21 5"	{ 2	11	Jan., 1911	Sept., 1912
New York (United States)...	21	27, 000	565	95	28½	1, 070	{ 10 14" 21 5"	{ 4	12	Oct., 1912	
Vérité (France).....	18	14, 636	439	79½	26½	768	{ 4 12" 10 7.6"	{ 2	11	May, 1907	Jan., 1908
Voltaire (France).....	19½	18, 029	476	84	27½	680	{ 4 12" 12 9.5"	{ 4	9. 8	Jan., 1909	Aug. 1911
Paris (France).....	20	23, 092	541	88½	29	915	{ 12 12" 22 5.5"	{ 4	10½	Sept., 1912	
Aki (Japan).....	20	19, 800	460	84	27½	932	{ 4 12" 12 10"	{ 5	9	Apr., 1907	Apr., 1911
Kawachi (Japan).....	20½	20, 800	500	84	27½	1, 000	{ 12 12" 10 6"	{ 5	9	Oct., 1910	May, 1912
Dante Alighieri (Italy).....	23	18, 600	520	87	27½	1, 030	{ 12 12" 20 4.7"	{ 3	9	Aug., 1910	Dec., 1912

Conte di Cavour (Italy).....	22	22, 340	554	92	27½	980	{ 13 12" 18 4. 7" }	{ 3 }	12	Aug., 1911
Sebastapol (Russia).....	23	23, 000	590	85	27½	.....	{ 12 12" 20 4. 7" }	{ 0 }	9	June, 1911
Viribus Unitis (Austria)	21	20, 010	492	89	26	1, 000	{ 12 12" 12 12" }	{ 4 }	11	June, 1911 Sept., 1912
Minas Geraes (Brazil).....	21	19, 250	500	84	25	.....	{ 12 12" 22 4. 7" }	{ }	9	Sept., 1908 Jan., 1910
Moreno (Argentine).....	22½	28, 000	575	95½	28	1, 050	{ 12 12" 12 6" }	{ 2 }	12	Sept., 1911

TABLE X.

PRINCIPAL CHARACTERISTICS OF BATTLE CRUISERS AND ARMORED CRUISERS RECENTLY COMPLETED OR APPROACHING COMPLETION.

	De- signed speed.	Displace- ment.	Length between perpen- diculars.	Beam.	Draft.	Comple- ment.	Battery.	Torpedo tubes.	Maxi- mum thickness armor belt.	Date launched.	Date of comple- tion.
Indomitable (Great Britain).	25	17, 250	<i>Fect.</i> 530	<i>Fect.</i> 78½	<i>Fect.</i> 26	750	{ 8 12" 16 4"	{ 5	<i>Inches.</i> 7	Mar., 1907	June, 1908
Indefatigable (Great Brit- ain).	25	18, 750	555	80	26½	760	{ 8 12" 16 4"	{ 2	7	Oct., 1909	Feb., 1911
Princess Royal (Great Brit- ain).	29	26, 350	660	88½	27½	950	{ 8 13.5" 16 4"	{ 2	9	Apr., 1911	Oct., 1912
Waldeck Rousseau (France).	23	13, 779	515	70½	27	740	{ 14 7.6"	{ 2	7	Mar., 1908	July, 1911
Blücher (Germany).....	24	15, 550	499	80	26½	820	{ 12 8.3" 8 6"	{ 4	7	Apr., 1908	Oct., 1909
Von der Tann (Germany)....	26	19, 000	561	87	27	900	{ 8 11" 10 6"	{ 4	7	Mar., 1909	Sept., 1910
Moltke (Germany).....	26	22, 637	610	96½	27	1, 012	{ 10 11" 12 6"	{ 4	10	Apr., 1910	Sept., 1911
Kurama (Japan).....	22	14, 600	450	75½	26	850	{ 4 12" 8 8"	{ 3	7	Oct., 1907	Feb., 1911
Kongo (Japan).....	27	27, 500	680	92	27½	.....	{ 8 14" 16 6"	{ 8	11	May, 1912	
Montana (United States)....	22	14, 500	502	73	25	950	{ 4 10" 16 6"	{ 4	5	Dec., 1906	July, 1908

TABLE XI.

TIME REQUIRED TO BUILD SOME RECENT BATTLESHIPS OF THE FIVE PRINCIPAL NAVAL POWERS.

Names.	Ton- nage.	Date of contract or order.	Keel laid.	Launched.	Commis- sioned.
GREAT BRITAIN.					
Bellerophon.....	18, 600	Sept., 1906 ¹	Dec., 1906	July, 1907	Feb., 1909
Superb.....	18, 600	Dec., 1906	Feb., 1907	Nov., 1907	May, 1909
Collingwood.....	19, 250	Oct., 1907 ¹	Feb., 1908	Nov., 1908	Apr., 1910
Vanguard.....	19, 250	Mar., 1908	Apr., 1908	Feb., 1909	Mar., 1910
Neptune.....	19, 900	Nov., 1908 ¹	Jan., 1909	Sept., 1909	Jan., 1911
Monarch.....	22, 500	Dec., 1909	Apr., 1910	Mar., 1911	Apr., 1912
Thunderer.....	22, 500	Dec., 1909	Apr., 1910	Feb., 1911	June, 1912
King George V.....	24, 000	Nov., 1910	Jan., 1911	Oct., 1911	Nov., 1912
GERMANY.					
Nassau.....	18, 602	May, 1906 ¹	Aug., 1907	Mar., 1908	Oct., 1909
Westfalen.....	18, 602	Oct., 1906	Aug., 1907	July, 1908	Nov., 1909
Posen.....	18, 602	Apr., 1907	July, 1907	Dec., 1908	May, 1910
Rheinland.....	18, 602	Apr., 1907	July, 1907	Sept., 1908	Apr., 1910
Helgoland.....	22, 440	July, 1908	Dec., 1908	Sept., 1909	Aug., 1911
Kaiser.....	24, 110	Sept., 1909 ¹	Dec., 1909	Mar., 1911	Aug., 1912
UNITED STATES.					
South Carolina.....	16, 000	July, 1906	Dec., 1906	July, 1908	Mar., 1910
Michigan.....	16, 000	July, 1906	Dec., 1906	May, 1908	Jan., 1910
Delaware.....	20, 000	Aug., 1907	Nov., 1907	Feb., 1909	Apr., 1910
North Dakota.....	20, 000	Aug., 1907	Dec., 1907	Nov., 1908	Apr., 1910
Utah.....	21, 825	Nov., 1908	Feb., 1909	Dec., 1909	Aug., 1911
Wyoming.....	26, 000	Oct., 1909	Feb., 1910	May, 1911	Sept., 1912
FRANCE.					
Vérité.....	14, 636	May, 1902	—, 1903	May, 1907	Jan., 1908
Voltaire.....	18, 029	Dec., 1906	June, 1907	Jan., 1909	Aug., 1911
Danton.....	18, 029	May, 1906 ¹	Jan., 1908	July, 1909	Feb., 1911
JAPAN.					
Satsuma.....	19, 350	—, 1904 ¹	May, 1905	Nov., 1906	Apr., 1910
Aki.....	19, 800	—, 1905 ¹	Mar., 1906	Apr., 1907	Apr., 1911
Kawachi.....	20, 800	—, 1908 ¹	Apr., 1909	Oct., 1910	Apr., 1912

¹ Built in Government dockyards.

TABLE XII.

BATTLESHIPS AND BATTLE CRUISERS ¹ AUTHORIZED, 1907-1912.

	1907		1908		1909		1910		1911		1912	
	B. S.	B. C.	B. S.	B. C.	B. S.	B. C.	B. S.	B. C.	B. S.	B. C.	B. S.	B. C.
Great Britain..	3	.....	1	1	6	² 4	4	1	4	1	4	.....
Germany.....	2	1	3	1	3	1	3	1	3	1	1	1
United States..	1	.....	2	.....	2	.....	2	.....	2	.....	1	.....
Japan.....	2	2	.....	.....	.....	.....	.....	1	1	3	.....	.....
France.....	.....	.....	.....	.....	.....	.....	2	.....	2	.....	³ 3	.....

¹ Armored cruisers able to take position in line of battle.² Includes two authorized by colonies.³ Includes one to replace the Liberté.

TABLE XIII.

NAVAL EXPENDITURES.

Year.	England.	Germany.	United States.	Japan.	France.
1906.....	\$167, 525, 238	\$58, 405, 200	\$104, 508, 719	\$19, 231, 945	\$60, 025, 405
1907.....	159, 758, 177	69, 210, 400	99, 693, 298	41, 076, 145	57, 394, 167
1908.....	160, 074, 573	80, 229, 800	129, 972, 971	40, 312, 533	58, 941, 096
1909.....	181, 936, 341	² 97, 722, 800	136, 935, 199	35, 870, 061	61, 064, 096
1910.....	206, 541, 168	² 103, 302, 773	131, 404, 640	37, 542, 184	74, 102, 439
1911.....	215, 996, 391	¹ 107, 232, 000	² 126, 405, 509	¹ 42, 944, 329	² 80, 371, 109
1912.....	¹ 228, 430, 064	¹ 110, 715, 043	² 123, 151, 539	¹ 46, 158, 216	² 81, 692, 832
1913.....	¹ 235, 213, 489	¹ 111, 288, 618	140, 800, 643	.....	¹ 89, 028, 626

¹ Estimates.² Authorized.

TABLE XIV.

COST OF SOME OF THE CAPITAL SHIPS RECENTLY COMPLETED.

Name.	Type.	Nation.	Displacement.	Year completed.	Total cost.
Superb.....	B. S...	England.....	18,600	1909	\$8,158,828
Neptune.....	B. S...	.....do.....	19,900	1911	8,411,497
Hercules.....	B. S...	.....do.....	20,000	1911	8,087,690
Orion.....	B. S...	.....do.....	22,500	1912	9,337,709
Monarch.....	B. S...	.....do.....	22,500	1912	9,182,657
Lion.....	B. C...	.....do.....	26,350	1912	10,065,562
Nassau.....	B. S...	Germany.....	18,602	1909	¹ 8,748,880
Helgoland.....	B. S...	.....do.....	22,440	1911	¹ 11,209,800
Von der Tann.....	B. C...	.....do.....	19,000	1910	¹ 8,726,508
Moltke.....	B. C...	.....do.....	22,637	1911	¹ 10,491,040
Satsuma.....	B. S...	Japan.....	19,350	1910	² 9,262,800
Aki.....	B. S...	.....do.....	19,800	1911	² 8,764,800
Danton.....	B. S...	France.....	18,030	1911	9,641,707
Voltaire.....	B. S...	.....do.....	18,030	1911	10,520,000
Minas Geraes.....	B. S...	Brazil.....	19,250	1910	8,863,843
Michigan.....	B. S...	United States..	16,000	1910	6,805,924
South Carolina.....	B. S...	.....do.....	16,000	1910	6,683,485
Delaware.....	B. S...	.....do.....	20,000	1910	8,034,994
North Dakota.....	B. S...	.....do.....	20,000	1910	8,472,150

¹ Amount appropriated.² Approximately.

TABLE XV.

AIR CRAFT.

[Apr. 7, 1913.]

	Mili- tary dirigi- bles.	Private dirigi- bles (esti- mated).	Military aeroplanes (includes monoplanes, biplanes, hydro- aeroplanes).		Private aero- planes (esti- mated).	Avia- tion fields.	Pilots (mili- tary and civil- ian).	Manu- fac- turers.
			Army.	Navy.				
Austria:								
On hand....	5	2	40	6	35			
Ordered....	3					3	60	5
England:								
On hand....	3	3	101	40	154			
Ordered....	4		47	20		31	382	21
France:								
On hand....	13	5	450		1,000			
Ordered....	7					39	1,200	20
Germany:								
On hand....	17	10	152		200			
Ordered....	5					36	320	15
Italy:								
On hand....	8	0	100		100			
Ordered....	2		30			14	200	
Japan:								
On hand....	2	0	20		5			
Ordered....	1					3	20	
Russia:								
On hand....	9	0	250		150			
Ordered....	10		0			8	118	
United States:								
On hand....	(¹)	0	20	5	1,000			
Ordered....			3	1		13	320	6

¹ One dirigible, which is practically useless, is on hand.

The number of pilots can be given only approximately. There are a great many more under instruction who have not received their certificates as pilots.

A large number of the private aeroplanes are experimental machines.

On account of the great number of experimental aeroplanes constructed, it is impossible to state the number of actual manufacturers definitely.

FOREIGN SHIPBUILDING PROGRAMS.

GREAT BRITAIN.

The total naval estimates for 1912-13 amount to \$228,430,064, as compared with \$216,036,101 for the preceding year, while for 1910-11 the amount was \$197,597,906. The total estimate includes a supplementary estimate of \$4,817,835, and an increase of the enlisted personnel by 1,500 men.

The actual standard of new construction which the admiralty has in fact followed during recent years has been to develop a 60 per cent superiority in vessels of the *Dreadnought* type over the German navy on the basis of an existing fleet law.

The shipbuilding program authorized for 1912-13 provides for the following new construction: Four large armored ships, 8 lightly armored ships, 20 destroyers, a group of submarines, 1 coast-guard cruiser, 4 oil-tank steamers, 1 water-tank vessel, and 2 tugs.

During the year there were completed the battleships *Conqueror* and *Thunderer*, each of 22,500 tons displacement; the *Centurion* and *King George V*, of 24,000 tons; as well as the battle cruiser *Princess Royal*, of 26,350 tons, a sister ship of the *Lion*; and the *New Zealand*, of 18,800 tons.

Of four battleships authorized in 1910 two have been completed, and of those of the 1911 program the *Iron Duke* and *Marlborough* were launched this fall. These ships are of about 26,400 tons displacement. The four battleships of the 1912 program are, according to press reports, to be armed with eight 15-inch guns, to displace 27,500 tons, and have a designed speed of 25 knots. Two of these ships were laid down in October, while the contracts for the other two were awarded in November. The battle cruiser *Tiger*, authorized in 1911, has been laid down, and will displace approximately 28,000 tons. All capital ships now building, excepting those of this year's program, will be armed with 13.5-inch guns.

The contracts for the eight lightly armored cruisers were awarded during October. These ships, according to the First Lord of the Admiralty, are to be "the smallest, cheapest, and fastest vessels, protected by vertical armor, ever projected for the British navy."

The contracts for the 20 new destroyers have been awarded. It is believed that these vessels will have a displacement of 1,000 tons.

Of the submarines authorized, neither the number nor the size has been officially announced.

GERMANY.

The total naval estimate for 1912-13 amounts to \$110,715,043, as compared with \$107,232,000 for 1911-12.

The fleet law has been amended so as to provide by 1920 a fleet to comprise 41 battleships, 20 large cruisers, and 40 small cruisers, an increase of 3 battleships and 2 small cruisers. It is proposed to build 6 submarines yearly, and by allowing a life of 12 years to maintain an establishment of 72 boats. The amendment further provides for the maintenance in full commission of about four-fifths of the fleet.

The naval appropriation bill for 1912-13 authorized the following new construction: One battleship, 1 battle cruiser, 2 small cruisers, 12 destroyers, 6 submarines, and 1 submarine salvage ship. As usual, there is an increase in the personnel to meet the increased needs of the service. Provision is made for 282 additional officers and 5,454 enlisted men.

During the year there were completed the battleships *Oldenburg* of 22,435 tons, the *Kaiser* and *Friedrich der Grosse* of 24,110 tons displacement. The battle cruiser *Goeben* has been completed; she has a displacement of 22,632 tons, mounts ten 11-inch guns, and on trials attained a speed of 28.6 knots.

FRANCE.

The total naval appropriation for 1912 amounts to \$81,692,832, as compared with \$80,371,109 appropriated for 1911.

The shipbuilding program authorized for 1912 provides for the following new construction: Three battleships, 9 submarines, and 1 transport. The original program authorized two battleships, but a third was provided for to replace the *Liberté*.

There has been no addition of capital ships to the fleet during the year, but increased activity has become manifest in all shipyards, and work on the new construction is progressing rapidly. Nine destroyers and several submarines have, however, been completed during the year.

The battleships of the 1912 program will mount ten 13.4-inch guns in center-line turrets. A four-gun turret is under consideration for future ships.

JAPAN.

The total naval estimate for the year 1912-13 amounts to \$46,-158,216, an increase of \$2,926,971 over the estimates for 1911-12. The unexpended balance of the existing appropriation, "Expenses for maintaining naval preparation," amounts to \$123,839,443, to be expended in six years, up to and including 1916-17. The allotment for maintenance and construction for 1912-13 amounts to \$24,144,446, as against \$21,768,673 for the year 1911-12.

During the year the following ships have been completed: The battleships *Settsu* and *Kawachi*, both of 20,800 tons, armed with twelve 12-inch guns; and three 4,950-ton cruisers, the *Yahagi*, *Hirado*, and *Chikuma*; two 600-ton destroyers and one submarine.

The battleship *Fuso*, authorized in 1911, has been laid down. She is to have a displacement of approximately 30,000 tons and mount 14-inch guns. Three battle cruisers of the 1911 program have been laid down in Japan. They are of the *Kongo* class, 27,500 tons displacement, armed with 14-inch guns, and a designed speed of 29 knots.

RUSSIA.

The naval estimates for 1912, ordinary and extraordinary expenditures, amount to \$84,630,780. This is an increase over the budget as voted last year of \$28,061,933.

The naval program as prepared under the direction of the minister of marine and authorized by the Duma includes the following items: (1) For new construction, fitting out and enlargement of ports, etc., \$221,450,000. (2) For completion of ships building and current expenses, \$403,245,000. Item (1) constitutes the small shipbuilding program which is to be executed in five years.

The new construction includes 4 battle cruisers, 4 protected cruisers, 36 destroyers, and 12 submarines for the Baltic, 4 protected cruisers for the Black Sea, 2 protected cruisers and 6 submarines for the Pacific. It was decided that the annual installments should be asked for as separate yearly credits.

The only addition to the fleet during the year has been the *Novik*, a destroyer of 1,260 tons displacement, with a speed of 36 knots. There are under construction, however, 7 battleships of 23,000 tons, 4 battle cruisers of 28,000 tons, 9 destroyers, and 6 submarines.

ITALY.

The naval appropriation for 1912-13 amounts to \$41,893,420. Of this amount \$21,722,536 is for the maintenance of existing vessels and for new construction now in hand or to be commenced.

The naval appropriation law does not specify the number or type of ships to be laid down, this being left to the discretion of the navy department, but the following new construction has been decided upon: Two battleships, 6 destroyers, 6 torpedo boats, and 6 submarines.

During the year there were completed the battleship *Dante Alighieri*, of 18,600 tons displacement, mounting twelve 12-inch guns in four center-line turrets, 1 scout cruiser of 3,220 tons, besides several torpedo craft and submarines.

There are under construction, besides the 2 battleships provided for this year, 5 battleships, 2 scout cruisers, and several torpedo craft and submarines.

AUSTRIA.

The total naval estimates for 1912 amount to \$28,167,714. Referring to the program adopted by the Austro-Hungarian delegations in the autumn of 1910, which authorized an expenditure of \$63,417,200 for shipbuilding in six installments during the years 1911 to 1916, inclusive, the amount apportioned for this year for new construction is \$13,601,000, which is to be expended on the ships now building. The amount apportioned for 1912 (\$13,601,000) was increased by the granting of an extraordinary credit of \$8,120,000 on October 14, 1912, by the delegations. The total amount appropriated for the navy for the year 1912 is, therefore, \$36,287,714. The only new construction provided for this year is one mining vessel of 1,000 tons displacement.

During the year the battleship *Viribus Unitus*, of 20,010 tons displacement, mounting twelve 12-inch guns in four center-line turrets, has been added to the fleet. Three battleships, 3 small cruisers, 6 destroyers, 12 torpedo boats, and 7 submarines are under construction.

SPAIN.

Spain, in 1908, provided a program for the upbuilding of her navy, as follows:

	Tons each.
3 battleships of about.....	15,000
3 torpedo-boat destroyers.....	350
24 torpedo boats.....	180
4 gunboats of about.....	1,000

ARGENTINA.

Argentina has provided for a program of 2 large battleships and 12 destroyers and authorized increasing the program, if required, to 3 large battleships and 16 destroyers.

BRAZIL.

In December, 1904, Brazil provided for a shipbuilding program, which has since been modified (put into execution in 1907), and now includes:

- 3 battleships.
- 2 scout cruisers.
- 10 torpedo-boat destroyers.

All of the above vessels except one battleship have been completed and delivered to Brazil. The third battleship is now under construction in England.

PROGRAMS FOR 1913-14.

The programs for 1913-14, so far as they have been determined or published, are as follows:

GREAT BRITAIN.

The total naval estimates for 1913-14 amount to \$235,213,489 as compared with \$228,430,065 for the year 1912-13 (including the supplementary estimate). The principal increases occur under the heads of Pay of Personnel, Victualing and Clothing, and Naval Armaments. The increase in personnel is due to the requirements of new ships being placed in commission and under construction. The total number of officers and men will reach 146,000. The total cost of new construction is \$77,662,162.

The estimates provide for the laying down during the year of 5 capital ships, 8 light cruisers, 16 destroyers, and a group of submarines. An additional battleship, the gift of the Federated Malay States, has been contracted for. The Canadian Government has under consideration a bill which provides for a grant of £7,000,000 to the Crown, for the construction of three first-class ships.

GERMANY.

The total naval estimates for 1913-14 submitted to the Reichstag in the latter part of November, 1912, amount to \$111,288,618. The ordinary recurring expenditure is \$46,935,805; the nonrecurring ordinary expenditure is \$52,179,113; the extraordinary expenditure is \$12,173,700; this is an increase over last year's (1912-13) final estimates (the ordinary estimates and the supplementary estimates being taken together) of \$573,574.

Increase of personnel is provided as follows: Two hundred and twenty-three additional officers, 6,125 enlisted men. The total strength of the personnel of the Navy will in 1913 be 3,394 officers and 69,495 men.

The provisions for new ships are according to the program laid down in the fleet law, and provide for the construction of 2 battleships, 1 battle cruiser, 2 small cruisers, 1 gunboat, 1 torpedo-boat flotilla (12 boats), and \$4,760,000 for submarine construction and experiment. The construction of a new imperial yacht was also appropriated for.

FRANCE.

The naval estimates for 1913-14 submitted to the Chamber of Deputies carries a total appropriation of \$89,028,626. Of this amount \$22,946,738 is for new construction and provides for the laying down of 2 battleships, 3 destroyers, 3 submarines, and 1 river gunboat. It also includes the first installments for the two battle-

ships provided in the fleet law for 1914. Those two ships were to have been begun January 1, 1914, but recent advices indicate that they will be laid down in October, 1913.

A further increase in the present shipbuilding program is under discussion.

RUSSIA.

The naval estimates for 1913-14 amount to \$118,643,820. This is an increase over the revised estimates of 1912-13 of \$36,624,187. This increase is in accordance with the shipbuilding program of June 23, 1912, known as the Small Shipbuilding Program, which provides for 4 battle cruisers, 8 cruisers, 36 destroyers, and 12 submarines, and the previous arrangements for ships to be built for the Black Sea and the Baltic. The principal items of this increase are as follows: New construction of ships, \$16,878,390; armament, \$8,810,722; naval ports, \$8,104,558.

JAPAN.

The Ashai states that a scheme drawn up by Admiral Takarabe for the expansion of the Navy estimates, based on an imaginary enemy, disposing of 21 battleships, has been accepted. It provides at present for the construction of 3 *Dreadnoughts* of the most powerful type and for the eventual carrying out of a scheme of 8 *Dreadnoughts*, 4 battle cruisers, 8 scouts, and 40 destroyers, at a cost of £36,500,000. It was originally proposed to build 8 *Dreadnoughts*, 8 battle cruisers, 16 scouts, 48 destroyers, costing £54,000,000, but this scheme was cut down to meet financial exigencies.

ITALY.

The total naval appropriation for 1913-14 amounts to \$49,550,147. This is an increase of \$7,691,116 over the appropriation for the preceding year.

The enlisted strength is increased by 2,000 men, namely, from 33,000 to 35,000.

AUSTRIA.

The naval estimates for 1913 amount to \$28,959,168. Of this amount \$13,885,200 constitutes the extraordinary credit for new construction allotted for the year 1913, and \$15,073,968, the ordinary expenditure. Under these two heads the total amount available for new construction is \$15,976,100. The personnel is hereby increased as follows: 1 rear admiral, 3 captains, 5 commanders, 31 lieutenants, 12 midshipmen, 5 medical officers, 27 engineers, 6 paymasters, and 1,500 petty officers and men. The strength will be increased from 14,000 to 21,000 men in 1916.

The naval estimates for 1914, submitted to the Austrian Delegations in March, 1913, carries the first installments for the construction of three *Dreadnoughts* to replace the ships of the Monarch class.

CONTINUOUS SHIPBUILDING PROGRAMS.

GERMANY.

Year.	Battle-ships.	Armored cruisers.	Small cruisers.
1908.....	3	1	2
1909.....	3	1	2
1910.....	3	1	2
1911.....	3	1	2
1912.....	¹ 2	1	2
1913.....	1	1	2
1914.....	1	1	2
1915.....	1	1	2
1916.....	¹ 2	1	2
1917.....	1	1	² 2

¹ Includes one additional ship under the amendment.

² Includes one additional ship outstanding from the fleet law.

The fleet law amended June 9, 1912, now provides for an establishment, in 1920, of 41 battleships, 20 large cruisers, and 40 small cruisers, all less than 20 years old, and 144 torpedo craft and 72 submarines, less than 12 years old. The last amendment carried an increase of 3 battleships and 2 small cruisers, and further provides that about four-fifths of the fleet shall be kept in full commission.

GREAT BRITAIN.

Great Britain has no fixed program, but her policy now is to develop a supremacy of 60 per cent in vessels of the *Dreadnought* type over the German Navy on the basis of an existing fleet law.

FRANCE.

On March 30, 1912, the French Government adopted a ship building program which provides for the completion by 1920 of 13 battle-ships and 6 scout cruisers. This new construction is to be laid down as follows:

Year.	Battle-ships.	Scout cruisers.	Year.	Battle-ships.	Scout cruisers.
1912.....	3	0	1916.....	0	0
1913.....	2	0	1917.....	2	2
1914.....	2	0	1918.....	0	2
1915.....	4	0	1919.....	0	2

RUSSIA.

The naval program as prepared under the direction of the Minister of Marine and authorized by the Duma includes the following items: (1) For new construction, fitting out and enlargement of ports, etc., \$221,450,000. (2) For completion of ships building and current expenses, \$403,245,000. Item (1) constitutes the small shipbuilding program which is to be executed in five years.

The new construction includes four battle cruisers, four protected cruisers, thirty-six destroyers, and twelve submarines for the Baltic, two protected cruisers for the Black Sea, two protected cruisers and six submarines for the Pacific. The amount available for 1912-13 is \$103,515,000. It was decided that the annual installments should be asked for as separate yearly credits.

ITALY.

Italy has a shipbuilding program extending to the year 1917-18. A certain sum is allowed each year for new constructions and the maintenance of the fleet. The number and type of ships to be laid down each year is determined by the Minister of Marine, therefore it is not possible to know what vessels are to be built until the navy department has made its decision.

AUSTRIA.

The present shipbuilding program expires in 1915 with the completion of the four battleships authorized in 1911. An additional program is under consideration.

No other countries have continuous shipbuilding programs.

REFERENCE BOOKS.

PROBABLY MAY BE FOUND IN A PUBLIC LIBRARY.

Navy Yearbook (Pulsifer).—Giving annual appropriations and various acts relating to the Navy, beginning 1883; alphabetical list of all United States vessels, with data on same; list of vessels of the principal navies of the world, etc. Printed as a congressional document.

Fighting ships (Jane).—Giving a detail description of all fighting ships and showing silhouettes, plans, and elevations of ships, description of uniforms, lists of naval bases, etc.

The Naval Pocketbook (Clowes).—Giving detail description of individual ships, lists, and numbers, data concerning guns, etc.

The Naval Annual (edited by Viscount Hythe).—Giving a series of essays on the navies of the world, lists, and numbers, and plan and elevation of principal ships.

For recommendations to Congress and reports of the various bureaus, see annual reports of the Secretary of the Navy.

The tables of "Warship tonnage" and "Sea strength" (Tables I to V, ante) of the principal naval powers are published annually by the Office of Naval Intelligence.

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